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Search Results - Record(s) 1 through 5 of 5 returned.

☐ 1. Document ID: US 6787133 B2

L2: Entry 1 of 5 File: USPT Sep 7, 2004

US-PAT-NO: 6787133
DOCUMENT-IDENTIFIER: US 6787133 B2

TITLE: Using purified telomerase to identify telomerase activators and inhibitors

DATE-ISSUED: September 7, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weinrich; Scott L.	Chesterfield	MO		
Atkinson, III; Edward M.	Seattle	WA		
Lichtsteiner; Serge P.	Encinitas	CA		
Vasserot; Alain P.	Berkeley	CA		
Pruzan; Ronald A.	Palo Alto	CA		

US-CL-CURRENT: 424/94.5; 435/14, 435/194, 435/252.3, 435/320.1, 435/412, 435/413, 435/6, 435/8, 435/9, 435/91.3, 435/935 , 530/350, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D

☐ 2. Document ID: US 6545133 B1

L2: Entry 2 of 5 File: USPT Apr 8, 2003

US-PAT-NO: 6545133
DOCUMENT-IDENTIFIER: US 6545133 B1

TITLE: Methods for purifying telomerase

DATE-ISSUED: April 8, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weinrich; Scott L.	Chesterfield	MO		
Atkinson, III; Edward M.	Seattle	WA		
Lichtsteiner; Serge P.	Encinitas	CA		
Vasserot; Alain P.	Berkeley	CA		

Pruzan; Ronald A.	Palo Alto	CA	

US-CL-CURRENT: 530/413; 435/194, 435/252.3, 435/320.1, 530/355, 530/358, 536/23.2, 536/23.5, 536/24.31

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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☐ 3. Document ID: US 6517834 B1

L2: Entry 3 of 5 File: USPT Feb 11, 2003

US-PAT-NO: 6517834
DOCUMENT-IDENTIFIER: US 6517834 B1

TITLE: Purified telomerase

DATE-ISSUED: February 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weinrich; Scott L.	Chesterfield	MO		
Atkinson, III; Edward M.	Seattle	WA		
Lichtsteiner; Serge P.	Encinitas	CA		
Vasserot; Alain P.	Berkeley	CA		
Pruzan; Ronald A.	Palo Alto	CA		

US-CL-CURRENT: 424/94.5; 435/194, 435/252.3, 435/320.1, 435/91.3, 530/412, 530/413, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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☐ 4. Document ID: US 6261556 B1

L2: Entry 4 of 5 File: USPT Jul 17, 2001

US-PAT-NO: 6261556
DOCUMENT-IDENTIFIER: US 6261556 B1
**** See image for Certificate of Correction ****

TITLE: Purified telomerose

DATE-ISSUED: July 17, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weinrich; Scott L.	Redwood City	CA		
Atkinson, III; Edward M.	Seattle	WA		
Lichtsteiner; Serge P.	Cupertino	CA		
Vasserot; Alain P.	Saratoga	CA		
Pruzan; Ronald A.	Palo Alto	CA		

Kealey; James T. San Anselmo CA

US-CL-CURRENT: 424/94.5; 435/194, 435/252.3, 435/320.1, 435/91.3, 530/412, 530/413, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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☐ 5. Document ID: US 5968506 A

L2: Entry 5 of 5 File: USPT Oct 19, 1999

US-PAT-NO: 5968506
DOCUMENT-IDENTIFIER: US 5968506 A

TITLE: Purified telomerase

DATE-ISSUED: October 19, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weinrich; Scott L.	Redwood City	CA		
Atkinson, III; Edward M.	Seattle	WA		
Lichtsteiner; Serge P.	Cupertino	CA		
Vasserot; Alain P.	Saratoga	CA		
Pruzan; Ronald A.	Palo Alto	CA		
Kealey; James T.	San Anselmo	CA		

US-CL-CURRENT: 424/94.5; 435/194, 435/252.3, 435/320.1, 435/91.3, 530/412, 530/413, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
L1 and 2000-fold	5

Display Format: CIT Change Format

Previous Page Next Page Go to Doc#

L2: Entry 1 of 5 File: USPT Sep 7, 2004

US-PAT-NO: 6787133
DOCUMENT-IDENTIFIER: US 6787133 B2

TITLE: Using purified telomerase to identify telomerase activators and inhibitors

DATE-ISSUED: September 7, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weinrich; Scott L.	Chesterfield	MO		
Atkinson, III; Edward M.	Seattle	WA		
Lichtsteiner; Serge P.	Encinitas	CA		
Vasserot; Alain P.	Berkeley	CA		
Pruzan; Ronald A.	Palo Alto	CA		

US-CL-CURRENT: 424/94.5; 435/14, 435/194, 435/252.3, 435/320.1, 435/412, 435/413, 435/6, 435/8, 435/9, 435/91.3, 435/935 , 530/350, 536/23.2

CLAIMS:

The invention claimed is:

1. A method to identify a regulator of telomerase activity, comprising: a) obtaining a preparation of mammalian telomerase enzyme purified by at least 2000-fold more pure than an extract of cells from adenovirus-transformed kidney cell line (293 cells), wherein the telomerase enzyme contains telomerase RNA component, and has a molecular weight of 200-2000 kDa; b) combining the preparation with a compound; c) determining telomerase activity of the enzyme in the presence of the compound; d) identifying the compound as being a regulator of telomerase if the telomerase activity measured in step c) is affected by the presence of the compound.

2. The method of claim 1, wherein the telomerase preparation was obtained by a process in which a solution containing telomerase activity was combined with an oligonucleotide having specific activity for mammalian telomerase; and then protein was collected that had bound the oligonucleotide.

3. The method of claim 2, wherein the oligonucleotide comprises a retrievable label.

4. The method of claim 3, wherein the retrievable label is biotin.

5. The method of claim 2, wherein the solution that was combined with the oligonucleotide had been obtained by preparing an enriched solution from a cell expressing telomerase, whereby telomerase enzyme in the enriched solution was separated from other proteins expressed by the cell.

6. The method of claim 2, wherein the process used to prepare the telomerase comprised combining a fraction containing telomerase enzyme with an anion exchange matrix, and collecting protein that bound the matrix.

7. The method of claim 2, wherein the process used to prepare the telomerase comprised combining a fraction containing telomerase enzyme with a cation exchange matrix (such as a heparin matrix), and collecting protein that bound the matrix.

8. The method of claim 2, wherein the process used to prepare the telomerase comprised combining a fraction containing telomerase enzyme with an intermediate selectivity matrix, and collecting protein that bound the matrix; wherein the intermediate selectivity matrix had at least one of the following substituents: hydroxyapatite, a polyamine (such as spermine or spermidine), poly guanylic acid, a divalent metal ion (such as Ni.sup.++), a positively charged poly-amino acid (such as poly-L-lysine), a positively charged enzyme (such as histone), or aminophenyl-boronic acid.

9. The method of claim 2, wherein the process used to prepare the telomerase comprised separating a fraction containing the telomerase enzyme by gel filtration chromatography or gradient centrifugation that separates molecules >200 kDa.

10. The method of claim 2, wherein the oligonucleotide contains a sequence that binds specifically to telomerase RNA component.

11. The method of claim 10, wherein the oligonucleotide contains the sequence of oligo 5 (SEQ. ID NO:3).

12. The method of claim 2, wherein the oligonucleotide contains a sequence that is specifically recognized by telomerase protein.

13. The method of claim 12, wherein the oligonucleotide contains the sequence (TTAGGG).sub.3 (SEQ. ID NO:6).

14. The method of claim 12, wherein the oligonucleotide does not contain the sequence (TTAGGG).sub.3 (SEQ. ID NO:6).

15. The method of claim 12, wherein the oligonucleotide contains the sequence of M2/TS (SEQ. ID NO:8).

16. The method of claim 1, wherein the telomerase preparation is at least .about.20,000 fold more pure than the cell extract.

17. The method of claim 1, wherein the telomerase preparation is between .about.3,000 and .about.60,000 fold more pure than the cell extract.

18. The method of claim 1, wherein the telomerase protein is human.

19. The method of claim 1, wherein the telomerase preparation has measurable telomerase activity in 0.2 .mu.g of protein when quantified in a telomere primer elongation assay in which .sup.32 P-labeled primer extensions are separated on a gel and detected using a phosphoimager screen.

20. The method of claim 1, wherein telomerase core enzyme is present in the

preparation at a concentration of at least 3.times.10.sup.-10 mol L.sup.-1.

21. The method of claim 1, wherein telomerase core enzyme is present in the preparation at a concentration of at least 2.times.10.sup.-9 mol L.sup.-1.

22. The method of claim 1, wherein the telomerase activity is determined in step c) by a primer elongation assay.

23. The method of claim 1, wherein the telomerase activity is determined in step c) by a dot blot assay.

24. The method of claim 1, whereby the compound is identified as being an inhibitor of telomerase.

25. The method of claim 1, whereby the compound is identified as being an activator of telomerase.

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WEST Search History

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DATE: Monday, April 18, 2005

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ	
☐	L6	telomerase with activator with inhibitor.clm.	2
☐	L5	telomerase with activator with inhibitor with 2000-fold	0
☐	L4	telomerase with activator with inhibitor	60
☐	L3	telomerase same activator same inhibitor	209
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L2	L1 and 2000-fold	5
☐	L1	telomerase same purification	66

END OF SEARCH HISTORY

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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:49:44 ON 18 APR 2005

=> file medline hcaplus scisearch embase
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.84       0.84

FILE 'MEDLINE' ENTERED AT 10:51:57 ON 18 APR 2005

FILE 'HCAPLUS' ENTERED AT 10:51:57 ON 18 APR 2005
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=> s mammalian telomerase and (kidney cell line or 293 cell?)
L1             4 MAMMALIAN TELOMERASE AND (KIDNEY CELL LINE OR 293 CELL?)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2             4 DUP REM L1 (0 DUPLICATES REMOVED)

=> d l2 1-4 ibib ab

L2   ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2003:276752  HCAPLUS Full-text
DOCUMENT NUMBER:          138:283318
TITLE:                    Sequential purification of mammalian
                          telomerase including affinity chromatography
                          using oligonucleotide sorbents
INVENTOR(S):              Weinrich, Scott L.; Atkinson, Edward M., III;
                          Lichtsteiner, Serge P.; Vasserot, Alain P.; Pruzan,
                          Ronald A.
PATENT ASSIGNEE(S):       Geron Corporation, USA
SOURCE:                   U.S., 24 pp., Cont.-in-part of U.S. 6,261,556.
                          CODEN: USXXAM
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   3
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     US 6545133            B1    20030408    US 2000-717829           20001120
     US 5968506            A     19991019    US 1997-833377           19970404
     US 6261556            B1    20010717    US 1999-420056           19991018
PRIORITY APPLN. INFO.:                       US 1995-510736       B2  19950804
                                             US 1997-833377       A1  19970404
```

US 1999-420056 A2 19991018

AB This invention provides purified **mammalian telomerase** and methods of purifying it. The methods involve the use of several sequential steps, including the use of anion exchange matrix, heparin-containing matrix, spermidine-containing matrixes, gel filtration chromatog. or gradient centrifugation, and affinity purification An affinity agent (oligonucleotide complementary to the RNA component of telomerase labeled with biotin and isolated with matrix-bound streptavidin) is disclosed. A method for preparing human telomerase that is 65,320-fold purified compared to that in crude cell extract is described. The method comprises six steps in succession: (1) CHAPS detergent S-100 extract preparation from **293 cells**; (2) chromatog. of the S-100 extract on POROS 50HQ matrix; (3) chromatog. of the POROS 50HQ active fractions on POROS Heparin 20HE-1 matrix; (4) chromatog. of the POROS Heparin 20 HE-1 active fractions on POROS spermidine matrix; (5) chromatog. of the POROS Spermidine active fractions on Superose 6 sizing column; and (6) chromatog. of the Superose 6 sizing column active fractions on Oligo 5 affinity matrix.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L2 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:113309 HCAPLUS Full-text
DOCUMENT NUMBER: 138:165719
TITLE: Chromatographic purification of human telomerase from
293 cells
INVENTOR(S): Weinrich, Scott L.; Atkinson, Edward M., III; Lichtsteiner, Serge P.; Vasserot, Alain P.; Pruzan, Ronald A.
PATENT ASSIGNEE(S): Geron Corporation, USA
SOURCE: U.S., 24 pp., Cont.-in-part of U.S. 6,261,556.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6517834	B1	20030211	US 2000-717828	20001120
US 5968506	A	19991019	US 1997-833377	19970404
US 6261556	B1	20010717	US 1999-420056	19991018
US 2003186282	A1	20031002	US 2002-330872	20021224
US 6787133	B2	20040907		

PRIORITY APPLN. INFO.:

US 1995-510736	B2 19950804
US 1997-833377	A1 19970404
US 1999-420056	A2 19991018
US 2000-717828	A1 20001120

AB This invention provides purified human telomerase and methods of purifying it. The methods involve the use of several sequential steps, including the use of matrixes that bind mols. bearing neg. charges, matrixes that bind mols. bearing pos. charges, intermediate-selectivity matrixes, methods that sep. mols. based on their size, shape, or buoyant d., and by affinity purification Human telomerase was purified to over

60,000-fold purity from 293 cell exts. This method comprises six steps in succession: (1) CHAPS detergent S-100 extract preparation from 293 cells; (2) chromatog. of the S-100 extract on POROS 50HQ matrix; (3) chromatog. of the POROS 50HQ active fractions of POROS Heparin 20HE1 matrix; (4) chromatog. of the POROS Heparin 20HE1 active fractions on POROS spermidine matrix; (5) chromatog. of the POROS Spermidine active fractions on Superose 6 sizing column; and (6) chromatog. of the Superose 6 sizing column active fractions on Oligo 5 affinity matrix. A telomere primer elongation assay for mammalian telomerase is also described.

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 4 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2001:695761 SCISEARCH Full-text
THE GENUINE ARTICLE: 466BD
TITLE: Human telomerase RNA-protein interactions
AUTHOR: Bachand F; Triki F; Autexier C (Reprint)
CORPORATE SOURCE: Sir Mortimer B Davis Jewish Hosp, Lady Davis Inst Med Res, Bloomfield Ctr Res Aging, 3755 Cote St Catherine Rd, Montreal, PQ H3T 1E2, Canada (Reprint); Sir Mortimer B Davis Jewish Hosp, Lady Davis Inst Med Res, Bloomfield Ctr Res Aging, Montreal, PQ H3T 1E2, Canada; McGill Univ, Dept Anat & Cell Biol, Montreal, PQ H3A 2B2, Canada
COUNTRY OF AUTHOR: Canada
SOURCE: NUCLEIC ACIDS RESEARCH, (15 AUG 2001) Vol. 29, No. 16, pp. 3385-3393.
Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND.
ISSN: 0305-1048.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 42

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Telomere length is maintained in most eukaryotic cells by telomerase. The core components of this ribonucleoprotein (RNP) enzyme include a protein catalytic subunit, composed of motifs conserved among reverse transcriptases (RT), and an RNA subunit that contains a short template sequence essential for the synthesis of telomeric repeats. We developed an electrophoretic mobility shift assay using active telomerase partially purified from 293 cells and radiolabeled, in vitro-transcribed human telomerase RNA (hTR) to investigate the molecular interactions of the human telomerase RT (hTERT) and telomerase-associated proteins with hTR. A specific hTR-protein complex was identified and shown to contain hTERT and human Staufen by antibody supershift assays. Variants of hTR altered in distinct structural elements were analyzed for their ability to competitively inhibit complex formation. Human telomerase RNAs lacking the CR4-CR5 domain were poor inhibitors of hTR-protein complex formation, suggesting that the CR4-CR5 domain of hTR is a potential protein-

binding site. Furthermore, alterations in the telomerase RNA pseudoknot's P3 helix, the CR7 domain, or the H/ACA box efficiently inhibited formation of the complex, indicating that these domains are dispensable for the assembly of a telomerase RNP in vitro. Potential telomerase-associated proteins that bind hTR were also identified using a UV cross-linking assay.

L2 ANSWER 4 OF 4 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 1999:410137 SCISEARCH Full-text
THE GENUINE ARTICLE: 199DA
TITLE: Genomic organization and promoter characterization of the gene encoding the human telomerase reverse transcriptase (hTERT)
AUTHOR: Wick M (Reprint); Zubov D; Hagen G
CORPORATE SOURCE: BAYER AG, DIV CENT RES, DEPT MOL BIOL, D-51368 LEVERKUSEN, GERMANY (Reprint)
COUNTRY OF AUTHOR: GERMANY
SOURCE: GENE, (17 MAY 1999) Vol. 232, No. 1, pp. 97-106. Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS. ISSN: 0378-1119.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 38

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The enzyme telomerase plays a crucial role in cellular proliferation and tumorigenesis. By adding hexameric repeats to chromosome ends, it prevents telomeric loss and, thus, entry into senescence. Recent data suggest that expression of the human telomerase reverse transcriptase subunit (hTERT) represents the limiting factor for telomerase activity. To gain an insight into the mechanisms regulating hTERT expression, we have determined the complete genomic organization of the hTERT gene and isolated the 5'- and 3'- flanking region. The hTERT gene encompasses more than 37 kb and consists of 16 exons. We show that all hTERT insertion and deletion variants described so far most likely result from the usage of alternative splice consensus sequences in intron or exon regions. Furthermore, we identified a new hTERT splice variant. Analysis of the DNA sequence surrounding the putative transcriptional start region revealed a TATA-less promoter located in a CpG island. A promoter fragment spanning the first 1100 bp upstream of the initiating ATG start codon exhibited high-level activity in HEK-293 cells. Several consensus binding sites for the transcription factor Sp1 as well as a c-Myc binding site were identified in this promoter region. Altogether, these results provide the basis for more detailed studies on the regulation of telomerase activity in normal and cancer cells, and may lead to the development of new cancer therapies. (C) 1999 Elsevier Science B.V. All rights reserved.

```
=> s mammalian telomerase and (inhibitor? or activator? or regulator?)
L3          47 MAMMALIAN TELOMERASE AND (INHIBITOR? OR ACTIVATOR? OR
REGULATOR?
                )

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4          47 DUP REM L3 (0 DUPLICATES REMOVED)

=> focus l4
PROCESSING COMPLETED FOR L4
L5          47 FOCUS L4 1-

=> d l5 1-10 ibib ab

L5   ANSWER 1 OF 47  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         1998:184000  HCAPLUS Full-text
DOCUMENT NUMBER:          128:240310
TITLE:                    Chimeric telomerase gene promoter-reporter gene
assays
                          for regulators of mammalian
                          telomerase expression
INVENTOR(S):              Villeponteau, Bryant; Harley, Calvin
PATENT ASSIGNEE(S):       Geron Corporation, USA; Villeponteau, Bryant;
Harley,
                          Calvin
SOURCE:                   PCT Int. Appl., 59 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   8
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     WO 9811207            A2    19980319    WO 1997-US16450          19970916
     WO 9811207            A3    19980625
         W:  AU, CA, CN, JP, KR, MX, US
         RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,
SE
     US 5972605            A     19991026    US 1996-714482           19960916
     AU 9743519            A1    19980402    AU 1997-43519            19970916
PRIORITY APPLN. INFO.:                       US 1996-714482      A1   19960916
                                             US 1994-272102      B2   19940707
                                             US 1994-330123      A2   19941027
                                             US 1995-472802      A2   19950607
                                             US 1995-482115      A2   19950607
                                             US 1995-521634      B2   19950831
                                             WO 1997-US16450     W    19970916
AB   Telomerase reporter constructs are suitable for use in reporting
     transcriptional activity of a mammalian telomerase gene transcription
     regulatory region. The constructs contain a transcription regulatory
     region of a mammalian telomerase gene operably linked to a reporter
     polynucleotide sequence. The regulatory region for the gene encoding
     the RNA component of human telomerase is reported and may be used in
     constructs containing such reporter genes as CAT, β-GAL, NEOR, HSV-TK to
     create recombinant mammalian host cells that can used to identify
```

telomerase transcription modulators, which are potential anticarcinogenic agents.

L5 ANSWER 2 OF 47 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:686603 HCAPLUS Full-text
DOCUMENT NUMBER: 131:318570
TITLE: Telomerase reporter constructs suitable for use in reporting activity of the transcription **regulatory** region of a **mammalian telomerase** gene
INVENTOR(S): Villeponteau, Bryant; Harley, Calvin
PATENT ASSIGNEE(S): Geron Corporation, USA
SOURCE: U.S., 22 pp., Cont.-in-part of U.S. Ser. No. 521,634, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5972605	A	19991026	US 1996-714482	19960916
US 5583016	A	19961210	US 1994-330123	19941027
US 5776679	A	19980707	US 1995-482115	19950607
US 5958680	A	19990928	US 1995-472802	19950607
WO 9811207	A2	19980319	WO 1997-US16450	19970916
WO 9811207	A3	19980625		
W: AU, CA, CN, JP, KR, MX, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9743519	A1	19980402	AU 1997-43519	19970916

PRIORITY APPLN. INFO.:

US 1994-272102	B2	19940707
US 1994-330123	A2	19941027
US 1995-472802	A2	19950607
US 1995-482115	A2	19950607
US 1995-521634	B2	19950831
US 1996-714482	A1	19960916
WO 1997-US16450	W	19970916

AB The invention provides telomerase reporter constructs suitable for use in reporting activity of the transcription **regulatory** region of a **mammalian telomerase** gene. Said constructs comprise a human telomerase gene transcription **regulatory** region operably linked to a reporter polynucleotide sequence. In one embodiment, the transcription **regulatory** region comprises sequences from the hTR promoter region. In certain embodiments, the invention provides for the use of the disclosed reporter constructs in assays for determining whether an agent modulates expression of telomerase.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 47 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:684422 HCAPLUS Full-text

DOCUMENT NUMBER: 128:1459
TITLE: **Inhibitor** peptide nucleic acids binding the RNA component of **mammalian telomerase**
INVENTOR(S): Shay, Jerry W.; Wright, Woodring E.; Piatyszek, Mieczyslaw A.; Corey, David; Norton, James C.
PATENT ASSIGNEE(S): Geron Corp., USA
SOURCE: PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9738013	A1	19971016	WO 1997-US5931	19970409
W: AU, CA, CN, JP, KR, MX				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6015710	A	20000118	US 1996-630019	19960409
AU 9726631	A1	19971029	AU 1997-26631	19970409
JP 2001517929	T2	20011009	JP 1997-536487	19970409
PRIORITY APPLN. INFO.:			US 1996-630019 A	19960409
			WO 1997-US5931 W	19970409

AB Peptide nucleic acids (PNAs) that can bind with the RNA moiety of mammalian telomerases and that can inhibit the enzyme are described. The PNAs may be antisense or triple helix- or D-loop-forming. The PNAs may be further modified with lipid moieties or signal peptides to ensure their efficient uptake by animal cells. The PNAs can be used to assay telomerase activity and to inhibit the enzyme in the treatment of disease. A series of PNA candidates for inhibition of telomerase activity were tested for efficacy in a telomere repeat amplification protocol assay and inhibition in the micromolar or nanomolar range was found. Further optimization expts. are reported.

L5 ANSWER 4 OF 47 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:351105 HCAPLUS Full-text
DOCUMENT NUMBER: 133:146531
TITLE: The NACHT family - a new group of predicted NTPases implicated in apoptosis and MHC transcription activation
AUTHOR(S): Koonin, Eugene V.; Aravind, L.
CORPORATE SOURCE: National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, MD, 20894, USA
SOURCE: Trends in Biochemical Sciences (2000), 25(5), 223-224
CODEN: TBSCDB; ISSN: 0376-5067
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the course of the recent anal. of the domain architectures of proteins involved in programmed cell death, we noticed that neuronal apoptosis **inhibitor** protein (NAIP) and MHC class II transcription **activator** (CIITA) contain a distinct predicted nucleoside triphosphatase

(NTPase) domain. Here we report that this domain belongs to a new family of predicted NTPases that include animal, fungal and bacterial proteins. The existence of a new family became apparent with the recent identification of a new pro-apoptotic protein, CARD4, which activates NF-κB. CARD4 contains a predicted NTPase domain that shows highly significant sequence similarity to CIITA. When the sequence of CARD4 between positions 119 and 417 was used as the query for searching the non-redundant protein database at the NCBI with the gapped BLAST program, the random expectation (E) value for the alignment with CIITA was <10-14. A single iteration of this database search using the PSI-BLAST program (with the cut-off for inclusion of sequences in the profile set at e = 0.001) retrieved, with E <10-4, the sequences of NAIP, two uncharacterized human proteins and, unexpectedly, those of the mammalian telomerase-associated proteins (TP1) and a predicted NTPase from Streptomyces coelicolor. Further database searches initiated with these sequences showed significant similarity to two addnl. bacterial predicted NTPases (another one from Streptomyces coelicolor and one from Synechocystis sp.) and incompatibility locus protein from Podospora anserina (HET-E). The results of these searches suggested the existence of a new family of NTPases, which we termed the NACHT family, after NAIP, CIIA, HET-E and TP1. The multiple alignment of the NACHT proteins, constructed using the MACAW program, shows the conservation of seven distinct motifs, including the ATP/GTPase-specific P-loop, the Mg2+-binding site (Walker A and B motifs, resp.) and five more specific motifs.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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ACCESSION NUMBER: 2003:1030234 SCISEARCH Full-text
THE GENUINE ARTICLE: 745DQ
TITLE: Down-regulation of telomerase activity in malignant glioma cells by p27(KIP1)
AUTHOR: Kanzawa T; Komata T; Kyo S; Germano I M; Kondo Y; Kondo S
(Reprint)
CORPORATE SOURCE: Univ Texas, MD Anderson Canc Ctr, Dept Neurosurg, 1515 Holcombe Blvd, Houston, TX 77030 USA (Reprint); Univ Texas, MD Anderson Canc Ctr, Dept Neurosurg, Houston, TX 77030 USA; Kanazawa Univ, Sch Med, Dept Obstet & Gynecol, Kanazawa, Ishikawa 9200934, Japan; CUNY Mt Sinai Sch Med, Dept Neurosurg, New York, NY 10029 USA
COUNTRY OF AUTHOR: USA; Japan
SOURCE: INTERNATIONAL JOURNAL OF ONCOLOGY, (DEC 2003) Vol. 23, No. 6, pp. 1703-1708.
Publisher: PROFESSOR D A SPANDIDOS, 1, S MERKOURI ST, EDITORIAL OFFICE,, ATHENS 116 35, GREECE.
ISSN: 1019-6439.
DOCUMENT TYPE: Article; Journal

LANGUAGE: English
REFERENCE COUNT: 46
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The cyclin-dependent kinase **inhibitor** p27(KIP1) is considered not only a prognostic factor in cancer, but also a promising anti-cancer agent. However, the relationship between p27 KIP I and telomerase, that has potential as tumor-marker, remains to be elucidated. In this study, using the recombinant adenoviral vector expressing p27(KIP1) (Adp27(KIP1)), we investigated whether p27(KIP1) affects telomerase activity in malignant glioma U373-MG cells. Overexpression of p27(KIP1) suppressed telomerase activity in tumor cells. The down-regulation of telomerase was due to inhibition of the-human telomerase reverse transcriptase (hTERT) gene expression at the transcriptional level. This **inhibitory** effect was partially induced by interfering with binding sites of the hTERT core promoter for transcription factors Myc and Sp1. These findings identify a novel role for p27(KIP1) in down-regulation of telomerase activity.

L5 ANSWER 6 OF 47 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 2000:526105 SCISEARCH Full-text
THE GENUINE ARTICLE: 332JN
TITLE: Identification and characterization of negative **regulatory** elements of the human telomerase catalytic subunit (hTERT) gene promoter: possible role of MZF-2 in transcriptional repression of hTERT
AUTHOR: Fujimoto K; Kyo S (Reprint); Takakura M; Kanaya T; Kitagawa Y; Itoh H; Takahashi M; Inoue M
CORPORATE SOURCE: KANAZAWA UNIV, SCH MED, DEPT OBSTET & GYNECOL, KANAZAWA, ISHIKAWA 920864, JAPAN (Reprint); KANAZAWA UNIV, SCH MED, DEPT OBSTET & GYNECOL, KANAZAWA, ISHIKAWA 920864, JAPAN; KANAZAWA UNIV, SCH MED, DEPT UROL, KANAZAWA, ISHIKAWA 920864, JAPAN; KANAZAWA UNIV, CANC RES INST, DEPT MOL & CELLULAR BIOL, KANAZAWA, ISHIKAWA 920864, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: NUCLEIC ACIDS RESEARCH, (1 JUL 2000) Vol. 28, No. 13, pp. 2557-2562.
Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND.
ISSN: 0305-1048.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 30
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Human telomerase reverse transcriptase (hTERT) is a catalytic subunit of human telomerase and is a critical determinant of the enzymatic activity of telomerase. Expression of hTERT is known to be regulated mainly at the transcriptional level. In the present study, using transient expression assays, we identified a 400 bp silencer of the hTERT promoter between -776 and -378 upstream of the proximal core promoter. The **inhibitory** effects of this silencer were enhanced with

cellular differentiation. A computer-assisted homology search identified multiple binding motifs for myeloid-specific zinc finger protein 2 (MZF-2) within this region, Mutation introduced in these sites resulted in significant activation of hTERT transcription, Gel shift assays demonstrated that MZF-2 proteins specifically bound to these sites. Overexpression of MZF-2 in cells led to down-regulation of hTERT transcription as well as telomerase activity, These findings suggest that the 400 bp region upstream of the hTERT core promoter that we identified functions as a negative **regulatory** region and that MZF-2 may be an effector of negative regulation of hTERT.

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ACCESSION NUMBER: 1998:945496 SCISEARCH Full-text
THE GENUINE ARTICLE: 146JK
TITLE: Telomeres and telomerase: targets for cancer chemotherapy?
AUTHOR: Perry P J (Reprint); Kelland L R
CORPORATE SOURCE: INST CANC RES, CANC RES CAMPAIGN BIOMOL STRUCT UNIT, 15 COTSWOLD RD, SUTTON SM2 5NG, SURREY, ENGLAND (Reprint); INST CANC RES, CTR CANC THERAPEUT, SUTTON SM2 5NG, SURREY,
ENGLAND
COUNTRY OF AUTHOR: ENGLAND
SOURCE: EXPERT OPINION ON THERAPEUTIC PATENTS, (DEC 1998) Vol. 8,
No. 12, pp. 1567-1586.
Publisher: ASHLEY PUBL LTD, 1ST FL, THE LIBRARY, 1 SHEPHERDS HILL HIGHGATE, LONDON N6 5QJ, ENGLAND.
ISSN: 1354-3776.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 128

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Telomerase is a specialised ribonucleoprotein comprising of, at present, 3 known components: the human telomerase RNA component (hTR); the human telomerase reverse transcriptase catalytic subunit (hTERT), and TP1, a telomerase-associated protein. Applications involving telomerase have been proposed in the fields of cellular engineering, diagnostics/prognostics and therapeutics. In the diagnostics area, around 85% of human cancers have been shown to possess telomerase activity, while such activity is not detectable in most somatic cells. In some cases (notably neuroblastomas, gastric and breast rumours), higher levels of telomerase activity were associated with poor prognosis. Telomerase activity, which has generally been measured using a highly sensitive PCR-based TRAP assay, may also be assessed to monitor residual disease following surgery and/or chemotherapy. As telomerase appears to be selectively expressed in rumours versus normal cells, many have proposed that the enzyme represents a good target for inhibition. Efforts are underway to target various components of the telomerase/telomere machinery including the hTR template region using antisense oligonucleotides and peptide nucleic acids (PNAs), some of which inhibit at the nanomolar level, hTERT, and the telomere/telomerase interaction.

Small-molecule **inhibitors** of telomerase have recently been described. These include a series of regioisomeric diamidoanthracene-9,10-diones (the best of which inhibit telomerase in cell-free assays with IC50 values of 1 - 5 mu M) and porphyrin-based molecules. These molecules have been proposed to act via stabilisation of telomerase. Reverse transcriptase **inhibitors**, such as AZT triphosphate,and guanine-quadruplexes, structures associated with telomeres have also been shown to inhibit telomerase. This will clearly be an area where, in the near future, potent **inhibitors** will be developed thus permitting further target validation experiments to be performed in tumour-bearing mice and ultimately in cancer patients.

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ACCESSION NUMBER: 2003042499 EMBASE Full-text
TITLE: Determinants in **mammalian telomerase** RNA that mediate enzyme processivity and cross-species incompatibility.
AUTHOR: Chen J.-L.; Greider C.W.
CORPORATE SOURCE: C.W. Greider, Department of Molecular Biology, Johns Hopkins Univ. Sch. of Medicine, Baltimore, MD 21205, United States. cgreider@jhmi.edu
SOURCE: EMBO Journal, (15 Jan 2003) Vol. 22, No. 2, pp. 304-314.
Refs: 39
ISSN: 0261-4189 CODEN: EMJODG
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 20030207
Last Updated on STN: 20030207

AB Telomerase contains two essential components: an RNA molecule that templates telomeric repeat synthesis and a catalytic protein component. Human telomerase is processive, while the mouse enzyme has much lower processivity. We have identified nucleotide determinants in the telomerase RNA that are responsible for this difference in processivity. Mutations adjacent to the template region of human and mouse telomerase RNA significantly altered telomerase processivity both in vitro and in vivo. We also identified functionally important nucleotides in the pseudoknot domain of telomerase RNA that potentially mediate the incompatibility between human TERT and mouse telomerase RNA. These experiments identify essential residues of the telomerase RNA that regulate telomerase activity and processivity.

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ACCESSION NUMBER: 2003:70360 SCISEARCH Full-text
THE GENUINE ARTICLE: 633FU
TITLE: Down-regulation of telomerase activity via protein phosphatase 2A activation in salvicine-induced human leukemia HL-60 cell apoptosis

AUTHOR: Liu W J; Jiang J F; Xiao D; Ding J (Reprint)
CORPORATE SOURCE: Chinese Acad Sci, Shanghai Inst Mat Med, Div Antitumor Pharmacol, State Key Lab Drug Res, Shanghai Inst Biol Sci,
Shanghai 200031, Peoples R China (Reprint)
COUNTRY OF AUTHOR: Peoples R China
SOURCE: BIOCHEMICAL PHARMACOLOGY, (15 DEC 2002) Vol. 64, No. 12, pp. 1677-1687.
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.
ISSN: 0006-2952.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 48

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Salvicine is a novel topoisomerase 11 inhibitor possessing significant antitumor activity, both in vitro and in vivo. The antitumor effect of salvicine is associated with its ability to induce tumor cell apoptosis. Telomerase plays an important role in the apoptotic pathway. However, little is known about the mechanisms of telomerase regulation during apoptosis induced by anticancer drugs. This study investigated the regulation of telomerase activity in salvicine-induced human leukemia HL-60 cell apoptosis. Salvicine treatment resulted in HL-60 cell apoptosis and down-regulation of telomerase activity in a time- and concentration-dependent manner. Repression of telomerase activity preceded a decrease in expression of the telomerase catalytic subunit (hTERT) and telomerase-associated protein (TP1) at the mRNA level, suggesting that the salvicine-induced decrease in telomerase activity may be additionally regulated by mechanisms other than telomerase subunit transcription. We observed that okadaic acid (OA), a protein phosphatase inhibitor , prevented the induction of apoptosis and the down-regulation of telomerase activity by salvicine. The significant increase in protein phosphatase 2A (PP2A) activity induced by salvicine treatment was blocked completely by OA. Moreover, although salvicine induced HL-60 cell apoptosis in a caspase-3-dependent manner, a specific caspase-3 inhibitor, Z-DEVD-FMK, did not prevent a decrease in telomerase activity or an increase in PP2A activity in apoptotic HL-60 cells, ruling out a role for caspase-3 in PP2A activation by salvicine. The results collectively suggest that the salvicine-induced decline in telomerase activity is not a consequence of HL-60 cell apoptosis and that it may be caused principally by the dephosphorylation of telomerase components mediated by PP2A activation. (C) 2002 Elsevier Science Inc. All rights reserved.

L5 ANSWER 10 OF 47 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on
STN
ACCESSION NUMBER: 2001:759870 SCISEARCH Full-text
THE GENUINE ARTICLE: 473VR
TITLE: Telomerase reverse transcriptase and telomeric-repeat binding factor protein 1 as regulators of telomerase activity in pancreatic cancer cells
AUTHOR: Yajima T; Yagihashi A; Kameshima H; Kobayashi D; Hirata K;
Watanabe N (Reprint)

CORPORATE SOURCE: Sapporo Med Univ, Sch Med, Dept Clin Lab Med, Chuo Ku, South 1, West 16, Sapporo, Hokkaido 0608543, Japan (Reprint); Sapporo Med Univ, Sch Med, Dept Clin Lab Med, Chuo Ku, Sapporo, Hokkaido 0608543, Japan; Sapporo Med Univ, Sch Med, Dept Surg, Sapporo, Hokkaido 0608543, Japan
COUNTRY OF AUTHOR: Japan
SOURCE: BRITISH JOURNAL OF CANCER, (1 SEP 2001) Vol. 85, No. 5, pp. 752-757.
Publisher: CHURCHILL LIVINGSTONE, JOURNAL PRODUCTION DEPT,
ROBERT STEVENSON HOUSE, 1-3 BAXTERS PLACE, LEITH WALK, EDINBURGH EH1 3AF, MIDLOTHIAN, SCOTLAND.
ISSN: 0007-0920.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 30

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Telomerase adds hexameric repeats of 5 ' -TTAGGG-3 ' termed telomeres to ends of chromosomal DNA. This enzyme has been implicated in cellular immortalization and cellular senescence. Recently. a number of relevant genes have been cloned, including these encoding three major components of human telomerase: human telomerase RNA component (hTR), human telomerase reverse transcriptase (hTERT), and telomerase-associated protein-1 (TEP1). Also important are genes encoding human telomeric-repeat binding factor protein (TRF) 1 and 2. To clarify mechanisms regulating telomerase activity, we studied telomerase activity, the telomeric restriction fragment (TRF) length and gene expression of these telomerase components and the telomeric-repeat binding factor proteins in sequential observation following X-irradiation of cultured pancreatic cancer cells. We previously reported that PANC-1 cells are better able to tolerate thermal stress, antineoplastic drugs, and exposure to tumour necrosis factor than MIAPaCa-2 cells. MIAPaCa-2 and PANC-1 cells were exposed to X-irradiation, their telomerase activity was increased at 2 days and then decreased gradually. Of the three telomerase components, only hTERT mRNA expression showed parallel changes. TRF length was stable just before and after X-irradiation. Among binding factor proteins, TRF1 mRNA showed reciprocal changes possibly directed toward maintaining a stable telomere length. In this study, our results demonstrate that not only hTERT but also TRF1 are important regulator of telomerase activity. (C) 2001 Cancer Research Campaign.

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FILE 'MEDLINE, HCAPLUS, SCISEARCH, EMBASE' ENTERED AT 10:51:57 ON 18 APR 2005

L1 4 S MAMMALIAN TELOMERASE AND (KIDNEY CELL LINE OR 293 CELL?)
L2 4 DUP REM L1 (0 DUPLICATES REMOVED)
L3 47 S MAMMALIAN TELOMERASE AND (INHIBITOR? OR ACTIVATOR? OR REGULAT
L4 47 DUP REM L3 (0 DUPLICATES REMOVED)

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